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ABSTRACT

This guide to the development of effective documentation for users of computer software begins by identifying five types of documentation, i.e., training manuals, user guides, tutorials, on-screen help comments, and troubleshooting manuals. Six steps in the development process are then outlined and briefly described: (1) planning and preparation; (2) analysis and organization; (3) development and writing; (4) production; (5) distribution; and (6) maintenance. Organization of the documentation by tabs, sections, and subjects is recommended, and the advantages of setting standards are listed. The need for practical, flexible standards and commitment to them by all involved is emphasized. Checklists of design criteria, writer's rules, and design activities are also provided. Lists of advantages of effective documentation for the developer and for the user and learning principles to be considered in developing documentation are attached. (MES)

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Designing Better Camels

Developing Effective Documentation for Computer Software

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DESIGNING BETTER CAMELS - DEVELOPING EFFECTIVE DOCUMENTATION FOR COMPUTER SOFTWARE

DOCUMENTATION - (doc'*u*men*ta'*tion) 1. Written information about computer hardware and software. 2. The supplying of documents or supporting references or records.

TYPES OF DOCUMENTATION

* Instructions or tutorials
* Training manuals or user guides
* On-screen tutorials or comments in computer programs
* Troubleshooting manuals
* Any type of reference or quick reference material that is intended to assist the user in learning the software program.

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STEPS IN THE DEVELOPMENT OF COMPUTER DOCUMENTATION

1. **PLANNING AND PREPARATION -**

   All of the activities and materials that need to be collected before full scale development commences.

2. **ANALYSIS AND ORGANIZATION -**

   Determining the content and general structure of the document and information gathering.

3. **DEVELOPMENT AND WRITING -**

   Choosing an appropriate writing style and graphic style. Following agreed upon standards for documentation. Deciding on the general layout.

4. **PRODUCTION -**

   Meeting with graphic designers or layout artist. Assembling final document for printing.

5. **DISTRIBUTION -**

   Dessiminating the documentation to users. Conducting any necessary training.

6. **MAINTENANCE -**

   Keeping the documentation up to date.

ORGANIZATION OF THE DOCUMENTATION

Divisions: Tabs, Sections, Subjects

Tab - major division in documentation
Section - secondary division in documentation
Subjects - tertiary divisions in documentation

EXAMPLE:

TAB	SECTIONS	SUBJECTS
Database	Introduction	Overview Objectives Definitions What is a database?
	Creating a Table	Overview Objectives Definitions What is a table? What is a field? What is a column,row? What is a value? How to create a table?

STANDARDS FOR DOCUMENTATION

Advantages of setting standards:

* Easier to develop
* Easier to read and understand
* Consistency throughout documentation
* Organized better
* Saves time
* Helps facilitate users acquiring needed knowledge and skills to use the program.

Some "MUSTS" concerning standards:

* There **MUST** be committment by all involved (management, writers, designers, etc.)

* Standards **MUST** be practical, flexible, and timely.

CHECKLIST OF DESIGN CRITERIA

SIMPLICITY - Does the general format of the page detract for the message being conveyed? Can users locate information easily?

RETRIEVABILITY - Is subject matter easily identified on pages?

FLEXILIBITY - Are needed variations in text formats accommodated without drastic alternations to the overall layout?

READABILITY - Are optimal reading lines maintained? Is there plenty of white space?

FUNCTIONALITY - Is there enough room allowed for such things as page punching? Do headers and footers share a minimal amount of space on the page?

EYEFLOW - Does the page read from left to right?

BALANCE - What type of balance is used? Does it feel balanced to the viewer's eye?

POSITIVE/NEGATIVE SPACE - Is white space used effectively?

CONTRAST - Is color, texture, and size manipulated to assist in conveying information and arousing attention?

CHECKLIST OF WRITER'S RULES

1. Know and write to the audience.
2. Organize the materials logically and/or in terms of tasks.
3. Revise and edit all materials.
4. Use graphics to help convey message and difficult concepts.
5. Get to know the subject matter before writing.
6. Use familiar words.
7. Eliminate unnecessary words.
8. Keep sentences short and simple.
9. Use the active voice and conversational style.
10. Keep construction parallel.
11. Use positive words.
12. Check for subject and verb agreement.
13. Avoid the use of abbreviations.
14. Use different type styles to emphasize main points.

CHECKLIST OF ACTIVITIES IN THE DESIGN OF COMPUTER DOCUMENTATION

1. Assess problem.
2. Analyze the audience, constraints, and resources.
3. Develop objectives, program sequence.
4. Gather materials.
5. Organize materials.
6. Create a working table of contents and outline.
7. Establish deadlines for development.
8. Design page formats and layouts.
9. Determine divisions in documentation.
10. Order the binders, dividers, paper.
11. Write the materials.
12. Produce graphics.
13. Proofread and correct first draft.
14. Evaluate first draft.
15. Revise first draft.
16. Obtain sign-offs.
17. Prepare indices, etc.
18. Arrange for printing etc.
19. Produce documentation
20. Distribute materials.
21. Set up schedule for evaluation.
22. Implement user education if necessary.
23. Maintain documentation.

Designing Better Camels:
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IMPORTANCE OF EFFECTIVE DOCUMENTATION

For Developer --	For User --
Provide structure when developing	Ease of access to information
Provide consistency	Ease of use of software
Provide standards for developing	Saves time and money
Assists in developing and providing training to use software	Provides for use of all features of software and trouble shooting

LEARNING PRINCIPLES

- o overview (advance organizer) through flowchart and/or outline
- o provide structure -- good outline with headings
- o clear presentation -- separate "how to use" (instructions) from reference information
- o simplicity (lean development with user tryout)
- o "chunk" information (7 ± 2 Rule)
- o multi-sensory -- use verbal plus visual/pictorial
- o provide practice/examples/exercises/interaction
- o include repetition
- o use logical schema from user's point of view
- o include index/synonyms/definitions of operations